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a plurality of toroid transformers carried within said package, said toroid transformers each having wires wrapped thereon,

a plurality of terminal pins molded within and extending through and below a bottom of said side wall, one end of each of said pins having a notched solder post upon which said wires from said transformers are wrapped and soldered thereon, respectively, [and]

the other end of each of said terminal pins extending in gull wing fashion outwardly from and below the bottom of the side wall for mounting onto the surface of the printed circuit board, and

at least one reinforcement beam located laterally along the bottom of said package to provide improved mechanical strength of said package.

Remarks

The present application is a divisional application of pending application Serial No. 08/773,555, filed December 27, 1996, which is a continuation-in-part of prior application Serial No. 08/513,573, filed August 10, 1995, now U. S. Patent No. 5,656,985 issued August 12, 1997.

This Amendment A is submitted in response to the Office Action in which the Examiner rejected Claims 1-7 under 35 USC 103 (a) as being unpatentable over Renskers taken with either Zelt or Wilfinger. The Examiner contends that the basic package is shown by Renskers and that a reinforcement beam is known, as shown by Zelt or Wilfinger. Applicant submits that the present invention is patentable over Renskers, even if combined with Zelt or Wilfinger for the following reasons.

Renskers is for a dual-in-line package (DIP), which is for through-hole PCB (Printed Circuit Board) applications (the terminal pin 32 of the Renskers DIP package is inserted "through" a hole in a PCB), whereas applicant's invention is for surface mount packages (SMP) for mounting on or onto the surface of a PCB. "Onto" is defined as on top of; to a position on; upon: the Renskers terminal pins 32 are not mounted onto the surface of a PCB. The "other end"

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a plurality of terminal pins molded within and extending through and below a bottom of said side wall, one end of each of said pins having a notched solder post upon which said wires from said transformers are wrapped and soldered thereon, respectively, [and]

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the other end of each of said terminal pins extending in gull wing fashion outwardly from and below the bottom of the side wall for mounting onto the surface of the printed circuit board, and

at least one reinforcement beam located laterally along the bottom of said package to provide improved mechanical strength of said package.

2. (Once Amended) An electronic surface mount package for mounting onto a printed circuit board comprising:

a construction package having a side wall and an open bottom,

a plurality of toroid transformers carried within said package, said toroid transformers each having wires wrapped thereon,

a plurality of terminal pins molded within and extending through and below a bottom of said side wall, one end of each of said pins having a notched solder post upon which said wires from said transformers are wrapped and soldered thereon, respectively, [and]

the other end of each of said terminal pins extending in gull wing fashion outwardly from and below the bottom of the side wall for mounting onto the surface of the printed circuit board, and

at least one reinforcement beam located laterally ~~along~~ the bottom of said package to provide improved mechanical strength of said package.

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6. (Once Amended) An electronic surface mount package for mounting [on] onto a printed circuit board in an electronic device, said electronic surface mount package comprising:

a one piece construction package having a side wall and an open bottom,

of applicant's terminal posts 14 extend in gull-wing like fashion below the bottom of package for mounting on a PCB. The other end 36 of Renskers is not for mounting on or onto the surface of a PCB as is applicant's "other end" 14.

Applicant submits that Renskers is not inherently capable of operating as a surface mount package as called for in the pending claims. Renskers does not have gull wing terminal pins which are mounted for soldering onto the surface of a printed circuit board. The terminal pins 32 of Renskers are inserted through a hole in a PCB, and are not for mounting and soldering onto the surface of the PCB. This is believed to be clear to one of ordinary skill in the art. Applicant is submitting Exhibit A which shows the differences between (1) applicant's (Halo) invention mounted on a PCB (Figure 6 of the application and (2) Figure 6 of the Renskers DIP package in which the terminal pins 32 would be inserted through a hole in a PCB.

In addition, applicant's terminal pins are molded within the package side wall, whereas the Renskers terminal pins are inserted and bonded with epoxy within channels formed within the side walls of the Renskers package. Clearly, Renskers does not disclose terminal pins molded within the side wall as called for in applicant's claims.

Using language from Renskers, the Renskers boxes (packages) are finally filled with encapsulant so as to embed, at least, the solder joints of the lead-lead leg connection 42 and the encapsulant cured. There is no such requirement for encapsulating (embedding) the terminal pins or solder posts 12 (the "one end") of the applicant's invention. Rather, applicant's soldered terminal pins or solder posts 12 (the "one end") extend below the bottom of the side wall, whereas the Renskers terminal pins are folded back into the cavity and encapsulated.

It is applicant's contention that Renskers solder leg 42 is the only component which could be characterized as a solder post as called for in the claims. The Renskers solder leg 42 is bent inward into the box so as to have a downward inclination so as to place the solder joints (the solder leg 42) below the level of the sides of the box and inside the box (column 4, lines 10-24 of Renskers). Applicant has amended the claims to more clearly recite that the one end forms a solder post which extends below the bottom of the side wall, as shown in Figure 1. The

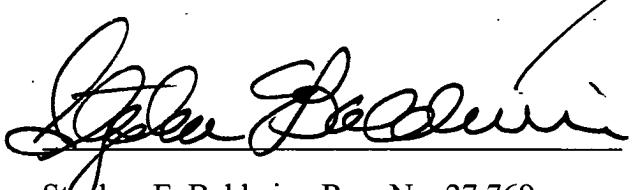
Renskers solder joints are bent backward into the box and do not extend below the bottom of the side wall when placed in a DIP application (the Renskers solder joints are "above" the bottom of the side wall when used in a DIP application). In contrast, applicant's solder posts 12 extend through and below the bottom of the side wall. As shown in Exhibit A, applicant's SMP of Figure 6 of the drawings shows the solder posts extending below the bottom of the side wall when the package is mounted onto a PCB, whereas with Renskers, the solder leads are bent inward into the box and "above" the bottom of the side wall when the Renskers DIP package is placed with the terminal pins inserted through the holes in the PCB in normal DIP package configuration.

In view of the foregoing, it is believed that Renskers does not show or teach the claimed package configuration, and even if Renskers is combined with Zelt or Wilfinger, that the present application is now in condition for allowance.

Respectfully submitted,

Date: 4/5/99

By:



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